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ABSTRACT

A study examined the relationship between television viewing and reading behavior within a sample of 198 fourth, fifth, and sixth grade students: specifically, whether the amount and specific content of television being viewed affected reading achievement and leisure reading patterns. Intelligence and reading achievement scores of each participant in the study were obtained through student files with parental permission. The families of the subjects completed logs of specific television shows watched, and recorded the number of books, newspapers, and magazines read during a four-week period. Results of the analysis indicated that the total amount of television viewed was not related to reading achievement and leisure reading habits. However, an analysis of television content showed a negative relationship between adventure shows and reading scores. (Author/HTH)

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The Effects of Television Viewing on Reading Behavior

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The effects of television viewing on children's reading patterns have become an issue of growing concern among educators in the past several years. Recent state-wide assessments in Rhode Island (1976), Pennsylvania (1978), and Connecticut (1979), have reported negative relationships between the amount of television viewed and reading achievement test scores. Kaye (1974) estimates that by the end of the high school years, children will have spent more time watching television (15,000 hours) than attending school (11,000 hours).

In contrast to the extensive research in the area of television and social behavior, relatively few empirical studies have concentrated on the relationship between television viewing and children's interest and achievement in reading. Broadly speaking, two major types of effects have been used to describe the potential relationship between the two media: 1) Displacement effects, which stem essentially from the time spent viewing; and 2) Content effects, which relate more to the specific nature and quality of the programs seen on television (Himmelweit, Oppenheim, and Vince, 1958).

Displacement effects refer to the organization of activities which occurred after the introduction of television in a community. The theory is based on the principle of

functional similarity: the child, confronted with multiple leisure alternatives, will sacrifice those activities appearing to satisfy the same needs as television, only less effectively. Himmelweit et. al. (1958) and Schramm et. al. (1961) both found, for example, that comic book reading was permanently reduced by cartoons on television. A similar trend, according to several observers (Larrick, 1975; Winn, 1977; Mankiewicz and Swerdlow, 1978), has occurred with the time previously devoted to reading. In a recent survey of over 500 fourth and fifth graders, students showed a preference for watching over reading in all content areas (Feeley, 1980).

The second type of effect relies more on the content of television programs and, for the most part, consists of the stimulation of interests and activities. Specific programs may encourage new interests in subject areas. For example, the technique of scripting, where students view television and read along with the script, has become a successful approach for motivating low achievers in reading (Solomon, 1976). Television-related books, featuring such characters as "Cool Cos" and "Mork and Mindy", as well, have been found to stimulate reading even among traditional nonreaders (Hamilton, 1976).

Thus far the research evidence reflecting either position

has been limited because of inadequate controls for I.Q. and socioeconomic factors (Ridder, 1963; La Blonde,1966; Witty, 1967). Furthermore, the attention of the research community has only studied the relationship between the number of hours viewed and reading (Neuman, 1980). There has been, as yet, no systematic attempt to determine how the specific content of television affects reading patterns. It could be, for example, that television influences the nature and quality of what children read outside of the school setting.

With these considerations in mind, the current project was designed to examine the potential displacement and content effects in relationship to television and reading. More specifically, the following questions were raised in the research: 1) Is there a relationship between the number of hours viewed on television and reading achievement? 2) Are leisure reading patterns related to the total amount of television viewed per week? 3) Is there a relationship between the specific content seen on television and reading achievement scores? and 4) Is there a relationship between the specific content viewed on television and leisure reading patterns?

Sample

One hundred and ninety-eight students in grades 4, 5, and

6, participated in the study. The sample included families from a local college, as well as a variety of industrial concerns in a rural New England town. Socio-economic status, coded using the Duncan Occupational Index(1969) was 6.13, indicating a largely middle class sample.

Data Collection

By parental permission, I.Q. and reading achievement scores were obtained through student files. I.Q. scores, determined by the Otis-Lennon Intelligence Test indicated a normal range of intelligence ($\bar{X}$=109, S.D.=11.01). Total reading scores at each grade level on the Stanford Achievement Test, administered in the Fall of 1979 showed students to be within the normal range of ability.

The family of each subject participating in the study completed two sets of logs daily for a four week period of time: 1) television logs, recording the specific shows viewed on commercial as well as educational stations, and 2) reading logs, including the number of books, newspapers, magazines, and comic books read. One hundred and twenty-four logs were returned, representing an attrition of 27%. The final N at each grade level is included in Table 1.

Every television program recorded in the child's log book was then coded according to its genre (e.g. comedy, cartoon, etc...). Reading materials were coded by their specific

category (e.g. books, newspapers, etc.) Such content coding permitted the charting of patterns in the subject's viewing behavior to determine its relationship to reading achievement and leisure reading patterns.

Results

The purpose of the study was to determine the potential displacement or content effects influencing the relationship between television and reading. The research focused not only on reading proficiency but attempted to analyze how television might be related to leisure reading patterns as well.

Prior to hypothesis testing, means, and standard deviations were computed for reading achievement scores, the number of leisure reading materials being read, and television viewing behavior on a weekly basis. Total reading performance, reported in grade equivalent scores, was average for children at each grade level (4.51, 5.36, 6.79, respectively). Patterns of leisure reading indicated a preference for newspapers and books over magazine and comic book reading.

Children in the sample viewed a total amount of 14.3 hours per week, considerably below the national average of 27 hours. The specific programs watched were then analyzed by genre into eight content categories ranging from situation

comedies to movies. Comedies were viewed more than any other type of programing. Over 70% of the children reported watching "Dukes of Hazard" every week; "Tom and Jerry" and "The Brady Bunch" were also frequently listed (see Table 1).

Insert Table 1 about here

Table 2 shows the pattern of correlations among the television and reading variables and it is here where several interesting patterns regarding the displacement and content effects theories begin to emerge.

Insert Table 2 about here

The displacement theory basically refers to effects that are related to the time spent viewing. Correlations between total television viewing, achievement scores, and leisure reading showed slightly negative relationships between television and magazines (r=-.04), newspapers (r=-.06) and reading achievement (r=-.12). A small positive relationship was reported between comic book reading and television (r=.14). None of these relationships, however, were significant. It appears then that the overall results clearly indicated that

the time factor, alone, was not related to reading. The displacement hypothesis would view these results in terms of the theory of functional similarity: the data suggests that the functions served by television and reading are different; therefore neither activity can be displaced.

The second phase of the analysis involved an examination of the content effects of television with leisure reading patterns and reading achievement scores. Correlations between the subcategories of television programing and the types of leisure reading materials revealed a strong positive relationship, as might be expected, between cartoons and comic book reading (r=.20). Adventure shows, movies and sports were all negatively related to magazine reading (-.18, -.17, -.17, respectively), indicating, perhaps, a competitve relationship between the two media. A slight positive relationship was reported between watching news on television and newspaper reading(r=.14). The overall pattern of correlations between television and leisure reading, however, appeared to be small with over 86% of the relationships less than significant.

This was not the case in regard to the relationships between television content and reading achievement. Distinct

negative correlations were reported between cartoons (r= -.21), drama (r= -.17), children's specials (r= -.21), adventure (r= -.25) and reading achievement.

Regressions were calculated for these subcategories of programing, controlling for I.Q., sex, grade, and socioeconomic status to determine their effectiveness in predicting reading achievement.

Insert Table 3 about here

An analysis of the demographic variables in Table 3 showed a relationship between I.Q., socioeconomic status, grade, and reading scores, indicating that achievement in reading was strongly linked to age (β=.41), intelligence (β =.52) and to a lesser extent, a family's social and educational status (β=.20).

Looking at the results of the analysis of content programing, it appeared that only one type of show, namely adventure programs, had a negative effect on reading achievement (β= -.18). To determine the possible cause for this relationship, a second hypothesis was generated. Perhaps this negative relationship was due to a factor related to the late hour of viewing and not the specific content. To test this hypothesis, a new variable was computed, consisting of all programs viewed after nine-o-clock, and regressed with

reading achievement scores. Regression 2 indicated no relationship between these two variables.

The results of this analysis revealed a rather intriguing relationship between adventure shows and reading achievement scores, suggesting that children who viewed this type of program tended to show poorer performance in reading achievement than other watching programs of a different nature. Based on the subsequent analysis, it appeared not to be a factor related to the late hour of viewing. The other subcategories of programs showed no significant relationships with achievement when the independent variables were statistically controlled.

Conclusions

The purpose of the analysis was to provide analytic information regarding television's effects on reading scores and leisure reading patterns. What was of specific interest here were the potential relationships between reading and the particular content viewed on television. The analysis focused on two major hypotheses used in examining the relationship between the two media: the displacement and content effects theories.

The displacement effects hypothesis assumes that television

viewing will replace other leisure activities thereby negatively affecting reading habits and, in the long run, achievement patterns. The results of the analysis presented here suggests that this was not the case. The total amount of television viewed per week was clearly not a significant factor in predicting reading achievement scores. Similarly, leisure reading patterns, including the number of books, magazines, newspapers, and comic books read, were also not affected by the number of hours viewed per week. These data appear to suggest that television viewing time did not displace reading activities.

The content effects hypothesis assumes that television programing might have educational value and therefore represents a potentially stimulating information resource to the young viewer. The results of the data analysis, however, suggested otherwise. Specific types of programing, cartoons, children's specials, drama, and in particular, adventure shows, appeared to be negatively related to reading achievement scores. Adventure programing has been a matter of continuing concern in the parallel field of television violence and child behavior. Clearly, further research is recommended to explore whether this finding is related to specific content sent on television or whether it, perhaps, represents a subtle indicator of home environment.

Based on the conclusions reached from this research, it appears that the displacement and content effects theories do not adequately explain the complex relationship between reading and television viewing. That specific types of programing negatively affect reading behavior should encourage further research in this area for the purposes of developing a theoretical or behavioral model to elaborate on this phenomena.

Table 1
Means and Standard Deviations of Television and Reading Variables

Variables	N	Mean	S.D.
Reading Achievement Scores			
Grade 4	57	4.51	1.42
Grade 5	39	5.36	1.58
Grade 6	28	6.79	2.03
Leisure Reading Patterns *			
Reading Books		2.28	1.86
Magazines		.74	1.10
Newspapers		1.70	2.51
Comic Books		.55	1.20
Television Viewing Patterns			
Situation Comedies		3.69	2.92
Cartoons		2.02	1.68
Drama		1.67	1.24
Adventure		1.55	1.18
Children's Specials		.89	.86
News		1.63	2.10
Sports		.92	1.96
Movies		1.22	1.33
Total Television Viewing		14.20	6.99

*The absolute value of this index may slightly overestimate reading behavior because some of the materials reported were not read in their entirety. This bias in absolute value, however, does not necessarily influence the analysis of variation around the mean for the sample group.

Table 2
Correlations Between Reading and
Television Viewing Variables

Variables	Books	Magazines	News.	Comics	Reading Score
Situation Comedy	.12	.05	.13	.06	-.02
Cartoons	.15	-.08	-.01	.20*	-.21**
Drama	.02	.06	-.05	.00	-.17*
Adventure	-.02	-.18*	.05	-.05	-.25**
Children's Specials	-.08	.02	.03	-.01	-.21**
News	-.02	.09	.14	.08	.00
Sports	-.18*	.04	-.17*	.10	.11
Movies	-.07	-.17*	-.14	.03	-.005
Total Television Viewing	.04	-.04	-.06	.14	-.12

*$p < .05$
**$p < .01$

Table 3
Demographic and Television Viewing Variables that Predict Reading Achievement

Variables	Regression 1			Regression 2		
	Simple R	Beta	F	Simple R	Beta	F
Demographic Variables						
I.Q.	.49	.52	56.78***	-----		
S.E.S.	.26	.20	8.16**	-----		
Sex	.05	.007	.009	-----		
Grade	.35	.41	36.12***	-----		
Television Categories						
Cartoons	-.21	.07	.90	-----		
Drama	-.17	-.09	1.50	-----		
Adventure	-.25	-.18	6.40*	-----		
Children's Special	-.21	-.09	1.77	-----		
Programs Seen After 9:00	-----	-----	-----	.01	.06	.70

* $p < .05$
** $p < .01$
*** $p < .001$

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